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Instructors Guide for Using Simulated Materials to Instruct School Administrators in the Area of Occupational Education.

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To prepare school administrators to exert more effective leadership in conceptualizing, analyzing, organizing, and administering public school vocational and technical programs, simulated materials were developed in the form of three "in-baskets" which consecutively communicate an awareness of the need of a more comprehensive program, provide knowledge about occupational preparation, and require application of the awareness and knowledge gained. The materials were designed to utilize the setting of the simulated community and school district described in VT 005 411. The simulated materials were tested by 48 students in an 8-week block program in a graduate course for administrators and in a 5-day workshop. The use of simulated materials was effective in increasing knowledge and producing favorable attitudes. Guidelines for using simulation suggest clearly that the instructor (1) identify objectives, (2) become thoroughly familiar with the materials, (3) use small groups to facilitate student interaction, (4) encourage active participation of all students, (5) permit the student freedom to explore alternatives, (6) phrase questions to stimulate discussion, (7) use role playing, (8) provide immediate and meaningful followup activities which require the student to face the problem and confront the consequences of a dicision, (9) allow adequate time to consider materials, and (10) be aware that simulation is not a panacea. (JK)

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INSTRUCTORS GUIDE:

FOR USING SIMULATED MATERIALS
TO INSTRUCT SCHOOL ADMINISTRATORS
IN THE AREA OF OCCUPATIONAL EDUCATION

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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INSTRUCTORS GUIDE

FOR USING SIMULATED MATERIALS
TO INSTRUCT SCHOOL ADMINISTRATORS
IN THE AREA OF OCCUPATIONAL EDUCATION

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This material is prepared as a portion of the project conducted at the University of Nebraska entitled, *The Development of Material For the Orientation of School Administrators to Vocational Educational Needs and Programs*. The research and evaluation reported herein was performed pursuant to a contract with the United States Department of Health, Education, and Welfare, Office of Education, under the provisions of the Vocational Education Act of 1963.

Department of Educational Administration
University of Nebraska

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INSTRUCTORS GUIDE:

I. INTRODUCTION

A growing awareness is being felt in various quarters of the educational establishment and in the public mind concerning the need for a more comprehensive and balanced curriculum in the secondary schools of our nation. Voluminous reports of statistical findings as well as passionate oratorical generalizations point to the demands that our present and future society place upon our educational system. The drop out, the rural-urban population trend, the need for manpower retraining programs, job corps, the underprivileged, and the problems of the urban center are only a part of the concerns which are being given consideration and which have implications which cannot be avoided when looking at American education. These problems, under our present system, will pass across the desks of school administrators. It is logical to assume that the quality of our administrators and the leadership they provide will have a vital bearing in determining the direction American education will take in the future.

In order that all of our nation's youth have an opportunity to realize their potential and develop into productive citizens, programs in secondary education must be comprehensive in fact as well as in theory. There is ample evidence to suggest that programs of industrial arts, prevocational and vocational preparation, and technical education (or occupational preparation as we shall refer to them henceforth) have received less attention

than college preparatory programs. Many reasons foster the imbalance which exists between college preparatory programs and occupational preparation programs. Parents want children to go to college. The national posture points to college as being the most desirable and highly valued form of post-secondary education. Counselors, teachers, administrators and school boards work in a climate which tends to perpetuate the idolization of a college education. Ways must be developed which will enable school administrators to strike a more equitable balance between college preparatory programs and programs of occupational preparation.

II. PROJECT DEVELOPMENT

The University of Nebraska received federal funding to develop an approach for preparing school administrators to become more competent in the administration of occupational preparation programs.

As set forth in the proposal, this developmental program was focused on the problem of preparing school administrators to exert more effective leadership roles with regard to the conceptualization, analysis, organization, and administration of programs of vocational and technical education in public schools. More specifically, the problem dealt with:

1. The determination of curriculum content for pre-service and in-service education of school administrators for leadership roles in the development of programs of vocational and technical education in local school districts.
2. The development of a curriculum for the preparation of school administrators for leadership roles in vocational and technical education.
3. The evaluation of the developed curriculum.

Simulation for Instruction

As the scene in American education has been changing, there has been a growing interest on the part of educators to find better techniques for helping the student learn. The demands placed upon an educational system by a dynamic society such as ours make it imperative for the educator to search out new means which will enable him to be as effective as possible. Simulation, as an instructional technique, has been developed in recent years and is growing in use and sophistication. It was determined that simulation, as an instructional device, would be employed in this project.

Simulation has been used for instructional purposes in a variety of settings with a variety of persons. The military services have made extensive use of simulation. The most familiar form of simulation in the armed services is, perhaps, the use of Link Trainers for instructing pilots. High school students have learned through simulation. Lessons taught to secondary students have included such topics as international affairs, government, student council leadership training, and driver education. One of the most well known, and certainly one of the best developed forms of instructional materials which use simulation, has been produced by the U.C.E.A. for training school administrators. The format employed by the U.C.E.A. is known as the in-basket method. While there is still much to learn about the use of simulation as an instructional technique, there is a growing field of information along with an increasing number of persons who are familiar with the method.

The University of Nebraska Project

Three phases were designed for the project conducted at the University of Nebraska. In the first phase baseline data about practicing administrators were collected. These baseline data included (1) demographic information, (2) information concerning how much administrators knew about occupational preparation programs and needs, (3) role expectations of administrators related to various aspects of occupational education, and (4) information concerning the attitudes of administrators toward academic and occupational concepts. The collection of these data was necessary in order that instructional materials could be designed and developed which would be appropriate for the persons to be schooled.

The second phase of the project was to develop instructional materials. These materials were planned to reflect the results of the baseline data, and to focus upon the stated objectives as set forth for this project.

During the preparation of the instructional materials, close communications were maintained with the U.C.E.A. staff members who were in the process of updating the Jefferson Township Simulated Materials. It was determined that the simulated instructional materials of this project should be designed to accompany the materials produced by the U.C.E.A. As a result of this cooperative effort, the simulated materials developed in this project were designed to utilize the setting of the simulated community and school district prepared by the U.C.E.A.*

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*The Jefferson Township materials are now entitled Madison School District. Background information, both written and audio-visual, and in-baskets are available through the U.C.E.A., 29 West Woodruff, Columbus, Ohio, 43210.

It was believed that the in-baskets planned in this project should be designed for use in workshops which last for only a few days. To accommodate such workshops a brief form of background materials was needed. A summarization or abbreviated form of the background materials prepared by the U.C.E.A. was developed to enable groups to use in-baskets with a minimal type of introduction to community and school.[1]

Three in-baskets were prepared. The first in-basket contained those items which might cross the principal's desk on any given day. This in-basket was designed to point to a need for broadening the curriculum in Madison High School. This awareness of the need for a more comprehensive program was aimed at changing attitudes of administrators so they would look more favorably upon occupational education.

The second in-basket was designed to improve the level of cognition of administrators relative to occupational education. This in-basket was made so that key references in the area of occupational preparation could accompany and become a part of the in-basket.[2] This would also give the instructor using these in-baskets the opportunity to select those references he felt were most valuable and important in aiding the student to learn more about occupational education.

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[1]Sybouts, Ward and Tobiska, Kenneth, *The Madison School-Community: Abbreviated Background Materials*. Department of Educational Administration, University of Nebraska, Lincoln, Nebraska.

[2]The following references were used with the in-baskets during the initial trial period:

United States Department of Labor, *Manpower Report of the President*, (Washington: Government Printing Office, April, 1967).

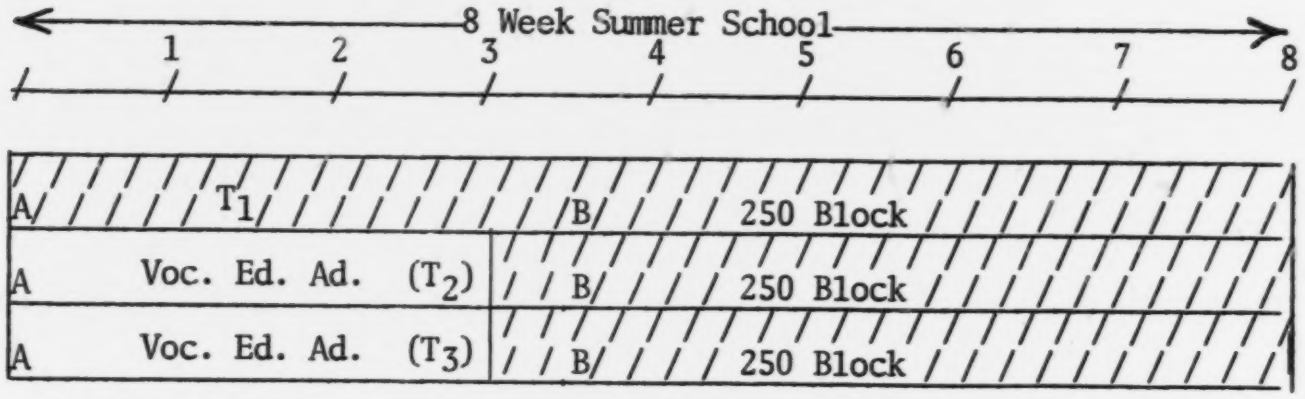
Gardner, John W., *Self-Renewal: The Individual and the Innovative Society* (New York: Harper & Row, 1965).

The third in-basket was organized to compel the student to take some action relative to improving occupational education. It was believed that requiring a student to take some definite action would enable him to apply some of the things he had learned about the administration of occupational education.

The last phase of the project was to test the simulated materials which had been developed. The three in-baskets developed were used in two settings during the summer of 1967 at the University of Nebraska. A five-day workshop was one setting in which the in-baskets, accompanied with the abbreviated background materials, were used. A block program, in which graduate students in educational administration were enrolled for eight weeks, was the second setting in which the in-baskets were employed. In the block program a three-week segment of the course was devoted to the study of administration related to occupational education.

FIGURE I

TIME DISTRIBUTION OF CONTROL AND EXPERIMENTAL GROUPS USED IN SUMMER SESSION 1967 TO TEST SIMULATED MATERIALS FOR INSTRUCTING ADMINISTRATORS OF VOCATIONAL EDUCATION



A = Pre-Test
B = Post-Test

T_1 = Control Group
T_2 = Experimental Group, Traditional Method
T_3 = Experimental Group, Simulation

III. TESTING THE MATERIALS

The simulated, or in-basket, materials were tested in a summer school training program for administrators at the University of Nebraska. A group of 48 persons, most of whom were working toward a masters degree in educational administration, was involved.

One-third of these potential administrators was designated as a control group in which no information was provided regarding the administration of vocational education. Another third was given an intensive three-week workshop in which vocational education was presented by a specialist in the area of vocational education in a traditional way. Lectures, discussions, field trips, and guest speakers were used to "teach" about the administration of vocational education. The remaining one-third of the group was given a three-week exposure to administration of vocational education through the use of simulated materials. This group first became familiar with the Madison Township Background materials produced by U.C.E.A. This familiarity with background materials was considered necessary in order that the student have a life-like setting in which to operate. Once the student knew about the composition of the community, its social and economic forces, etc., and about the school district characteristics, he was better able to determine in a more realistic sense how to handle in-basket items with which he was to be confronted.

IV. THE FINDINGS OF CONTROL AND EXPERIMENTAL GROUPS

The experimental group using the simulated materials was presented with a series of three in-baskets. The first of these in-

baskets was in the form of a "typical" day's mail, notes, and problems faced by a high school principal. It contained situations designed to point to the need of a more comprehensive curriculum. As students individually completed dealing with the various items that crossed their desk, they were asked to reflect upon their day's work and then state what they felt was the basic or underlying problem. Almost three-fourths of those participating indicated a need for a more comprehensive vocational education program which would extend from the guidance department and through the curricular areas in the school. One-fourth mentioned the need for a more "comprehensive" program designed to meet needs of all students, while only an isolated person identified other basic concerns or needs. This experience with simulation led students to recognize a need, which was in turn reflected in their attitude test scores. By contrast *the experimental group receiving traditional instruction was repeatedly "told" of the importance of vocational education, but their attitudes were not measurably or significantly affected* as revealed in test scores.

The test scores for the three groups revealed both the traditional method and the simulated technique yielded significant (to the .01 level) growth in the cognitive domain. Students in both experimental groups learned more "facts" about administering vocational education while those who were in the control group showed no significant gain in this area.

Changes in attitude patterns occurred in the experimental group having the simulated materials. Attitude measures employing the semantic differential technique yielded a more favorable attitude

toward vocational concepts when comparing pre- and post-test results, while academic concepts were not significantly changed. There tended to be an equalizing effect which took place between academic and vocational concepts as reflected in pre- and post-test scores. In pre-test scores the academic concepts were scored higher than the vocational concepts. The post-test scores showed a significant gain in the vocational concepts which resulted in a tendency to bring the vocational and academic concepts into closer balance. This was precisely what the simulated materials were designed to do.

The experimental group receiving traditional instruction in vocational education administration and the control group showed no significant change in attitudes. Persons in these two groups reacted similarly to attitude measures in pre- and post-tests.

After the course was completed, students were asked to give their reaction to simulation as an instructional technique. They ranked it as "realistic," "interesting and informative," "appropriately difficult," and "good." Instructors viewed the use of in-baskets as "highly motivating and stimulating."

When discussing the conclusions of the use of simulation as a device to train educational administrators to become more proficient in the area of vocational administration, it would be easy for those involved to become overly enthusiastic. Simulation should be recognized as simply one instructional technique and not a panacea for education. There are also some obvious limitations to the use of simulation. It is extremely time consuming to produce, in-baskets become obsolete rather quickly, and not all instructors are conversant in the use of simulated materials.

Although the findings regarding the use of simulated materials to train educational administrators in the area of vocational education were encouraging, the final results cannot yet be judged. The real value of the materials produced in the project will be realized only when administrators move more forcefully and effectively into the development and improvement of vocational education programs.*

V. THE USE OF SIMULATION IN THE CLASSROOM

Those who have worked with simulation have recognized the importance of familiarizing the instructor with the technique. Since the U.C.E.A. originally developed the Jefferson Township simulated materials, which were more recently revised and called the Madison Township Simulated Materials, their staff has recognized the importance of in-service for users of in-baskets. It has been a general practice of the U.C.E.A. not to sell simulated materials to an institution for use until representatives from that institution have either attended a U.C.E.A. seminar or have worked with professors in an institution having an accepted and recognized program involving simulated materials. It has also been found at the University of Nebraska that some teachers, when using simulation with high school students attending a student council workshop, can use this tool effectively with very little in-service. By contrast, other teachers require a much more extensive

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*The research and evaluation reported herein was performed pursuant to a contract with the United States Department of Health, Education, and Welfare, Office of Education, under the provisions of the Vocational Education Act of 1963.

training program. Those teachers who fail to understand the necessary procedures for using simulation cause the value of in-baskets to be lost or diluted. Instructors using simulation will obviously have better results when they understand how to employ this technique.

Three examples of the use of simulation for instruction are given below. Quite obviously, the three examples given here are not implied to constitute all possible ways of using simulation for instructional purposes. The first example will be a brief description of the use of simulation in an expanded block of time, such as an eight-week summer school session in which the student is involved for five days each week for a major portion of each day. The second illustration gives a summary of procedures used in a workshop which involved five days. The last illustration is a description of the use of simulated materials as an integral part of a regular graduate course for school administrators.

Simulation in the Large Block of Time

Simulation for instructional purposes has frequently been conducted in a block-time program. The course, Educational Administration 250, Principles and Processes in Educational Administration, taught at the University of Nebraska is illustrative of such a program. In the "250 Block" pupils meet from 8:30 a.m. to 12:00 a.m. daily and from 1:30 p.m. to approximately 3:30 p.m. approximately twice a week during an eight week summer session. Having students for such an extensive period of time is, in many ways, ideal for utilizing simulated materials.

Background materials were first presented to students in the "250 Block." The complete background materials prepared by the U.C.E.A., which included written materials, filmstrips and tapes, were given to the students to study and discuss.

A number of steps were employed to encourage the student to become familiar with the Madison Township School District background materials. They were first asked to study the written materials. After they had devoted an entire morning to these written materials, filmstrips and tapes of the Madison School District were viewed. On the second day students discussed the materials they had studied. These discussions were carried on in small groups of approximately 16 students. As students became more confident and comfortable concerning the factual data about the district, they turned their attention to discussing some of the implications and configurations of the district characteristics. District characteristics such as the power structure, economic and social forces in the community, were included in the discussion.

An objective self-test was given to students when they indicated they were sufficiently familiar with "their" district in order to check their knowledge. The self-test was then reviewed in small group discussions. Students were also asked to write a statement of the major strengths and the weaknesses which they had viewed in the district. These statements were used as a basis for further group discussions.

A wide variety of implications can be drawn from the study of background materials. It is because of this variety of implications

that many lessons can be gleaned from the study of the Madison School District. The simulated community and school district enabled the students to be introduced to organizational structures of a school, curricular implications, personnel problems, community involvement in political and economic or social patterns. There is almost no limit to the direction or focus which can be emphasized by using the background materials.

In-baskets were placed on the desks of the students on the day following the last discussion of the background materials. Students were told they were to play the role of the high school principal, and the in-basket in front of them was their mail for the day. Specific instructions were provided for the student indicating he was to work independently and was to take each item in the in-basket and determine what action he felt was appropriate. He was instructed to write his reaction to each in-basket item. If the student playing the role of the principal felt a note to a teacher was necessary, he was to actually write the note and indicate what he would do with it.

The next two morning sessions, which amounted to approximately five hours of discussion time, were utilized to discuss the in-basket items. Discussion groups were kept small (16 students) to enable as much student interaction as possible. Each item in the in-basket was examined. Students compared the ways in which they handled the items and then considered the implications of their actions.

Toward the end of the discussions the instructor was able to point to and summarize various conclusions which could be reached regarding various administrative processes. This bringing together

of the essence and implications to be derived from the in-basket was an important part of the process of using simulation. One word of caution may be warranted at this point: the instructor should avoid the temptation of giving all the answers, insisting that items be handled the "right way," or in usurping major portions of time to lecture as a means of assuring the student he will have all information in the form deemed correct by the instructor. Interaction among students is of major importance as in-basket items are reviewed.

The first in-basket was to create an awareness of a problem. The discussion method described above was considered appropriate to achieve this purpose. The discussion approach of in-basket items and the summarization to identify the basic or underlying problems was effective as indicated by the evaluations of the process.

The second in-basket was designed to provide the student with factual information. Two forms of information were contained in the in-basket to achieve this purpose. First, there was a simulated report of a follow-up study of Madison High School graduates. Secondly there were selected references which contained information deemed necessary for a knowledge background in respect to occupational education. The instructors were left free to select and use those references which they felt were appropriate and would meet the particular needs of the students with whom they were working.

Just as different instructors choose different texts, different instructors may wish to select different references to accompany the second in-basket. This option has been left open to those who wish to employ these simulated materials.

The third in-basket was a project in-basket. This in-basket contained a memorandum to the principal from the superintendent directing the principal to develop a program for correcting the curricular weaknesses, which were primarily occupational education weaknesses, which had been made apparent in the first in-basket. Information which was available in the second in-basket, plus any other information the student might seek, was available for the student as he approached the task assigned in the third in-basket. The third in-basket was designed to force the student to take some action (to conceptualize a program and plan a way of implementing his program in the face of opposition.)

When the students in the "250 Block" confronted the third in-basket, they were encouraged to work in small groups of three to five persons. In these small groups they planned their respective programs. These programs were then presented to the other members of the class who were to play the role of persons on the school board or from a local service organization. Students making the presentation were confronted with the necessity of explaining and justifying their proposed program.

When the series of the three in-baskets was completed, a brief summarization discussion was held. The various implications and ramifications of working in the simulated setting were reviewed. The "reality" of the power structure in Madison, along with numerous other ramifications was considered.

Simulated Materials in Workshops

Abbreviated background materials were found to be useful when using simulation in a workshop which lasted for five days. When a limited amount of time (one to five days) was available, it was not feasible to acquaint the student with all of the in-depth background materials. In a short workshop setting the student had to be introduced very quickly to the setting in which he was to be required to assume an assigned role.

The complete background materials prepared by U.C.E.A. were summarized. This summary of the background materials, when accompanied with the filmstrip developed by the U.C.E.A., was used to introduce students to Madison as quickly as possible. By reading the abbreviated materials, viewing the filmstrip and having a brief discussion, students could move directly to selected in-basket items and assume their assigned role.

In-baskets were assigned to workshop participants with the same basic instructions used when larger blocks of time were available. The student had to react, in writing, to each item in the in-basket. For students to deal with the in-basket items, it took as long in a workshop as it did in a program with more time. However, the instructor could select specific items from a given in-basket if he desired. The danger with this procedure is that it may be overly obvious to the student that he is to move in a certain direction prescribed by the instructor.

Discussion of the way students reacted to items in the in-basket was shortened in the workshop. Several items, in which a definite interrelation exists, were identified by the instructor in advance. He then called upon the students to direct their discussion to the selected items which constituted a group for general consideration.

The three in-baskets (a. Create an awareness of the problem; b. Increase cognitive domain; c. Require the student to conceptualize and develop a program) were used in sequence with the workshop participants. The second in-basket, with its accompanying references, was studied and discussed by the workshop participants. The time restriction, however, did not permit an extended review and study of the references nor did time permit or encourage the workshop participant to seek additional information by visiting persons knowledgeable in the area of occupational education. By the same token, the third in-basket, which asked for a plan to improve occupational education in Madison, was allotted only a brief amount of time. This short amount of time devoted to conceiving and developing a plan meant that such plans had to be presented in brief, or outline form. Much of the role playing which had accompanied the presentation of plans in the "250 Block" was not in evidence in the workshop. Plans for improving the occupational program were presented in gross terms, or boldly sketched with less refinement and detail, than was the case in the "250 Block."

The conclusion and summarization of the in-basket discussion was also reached more quickly in the workshop when contrasted to the "250 Block." However, the instructor was confronted with the necessity of guarding against too much haste. The students were given an opportunity

to search out and reach conclusions. Discussion was a necessary ingredient when using in-baskets for instructional purposes in the workshop.

Simulation within a Graduate Course

The simulated materials developed in this project were first used in a pilot study in a regular graduate course at the University of Nebraska. The course into which the in-baskets were projected was Secondary Education 243, Internal Administration of the High School. Students enrolled in this course are generally masters candidates with teaching experience but little or no administrative experience. The course is designed as an introductory course for prospective secondary school administrators.

The abbreviated background materials of the Madison school district were used. Students were assigned to read the background materials as an out-of-class assignment. The accompanying filmstrips were viewed and discussions held for an equivalent of two class periods or approximately two hours. Following the discussion and review, the self-test was given which covered factual material about the Madison District. The background materials were used as a point of reference, or an illustration of a given setting, for several topics throughout the duration of the course.

The first of the three in-baskets was assigned to the class following the completion of the background materials. First, in-basket items were worked on independently by class members outside of the regular class period. Students were instructed to respond to

each item in the in-basket by writing out their responses. If the student felt a letter required an answer, he was actually to write the letter. If a student thought an item required "no action," he was to indicate this in writing.

At the following two class sessions, the individual responses to in-basket items were discussed. The discussion was structured in a way to encourage student interaction and to reduce instructor domination. At the end of the discussion the students were directed to focus their attention on the basic or underlying problems which they saw reflected in the items of the in-basket. The technique of asking the students to identify basic problems seemed to be quite an effective device to identify concerns relative to improving curriculum in occupational education.

The second and third in-baskets (designed to improve the cognitive domain and to require the student to conceptualize a program for improving occupational education) were assigned at the same time. Students were encouraged to work in pairs or groups of three or four. They were given two weeks to prepare a proposal to improve the occupational preparation program at Madison High School. At the end of two weeks the various groups were required to present their proposals for curriculum improvement to other members of the class.

During the two week period when committees were working on their proposals, class time was devoted to the discussion of the materials contained in the reference in the second in-basket. These references were discussed and reviewed and implications for education were identified.

In-basket materials as an instructional technique for training educational administrators can be used in a variety of ways. They can be incorporated into a traditionally taught course; they may be used in extended workshops of several weeks; or they may, when accompanied with abbreviated background materials, be used in clinics or workshops lasting for only a few days.

Evaluation

The evaluation of student behavior, or the measurement of changes in human behavior is complex. The most sophisticated devices for the assessment of learning lack total perfection. One of the concerns of those who have utilized simulation, or in-baskets, as an instructional device has been regarding evaluation of pupils. Griffiths, Hemphill and Frederiksen have given a thorough and comprehensive report on their findings about simulation as an evaluative device.[1] However, there have been limited efforts to establish adequate measures to determine the effectiveness of simulation as an instructional technique.

The evaluation technique employed in the project to train administrators to be more knowledgeable regarding occupational preparation has followed a rather traditional design. Instruments were designed and used to try to give some assessment of student behavior as related to the originally stated objectives. Therefore a cognitive test, a role instrument and attitude scale were employed. In addition to the

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[1]Griffiths, Daniel E., Hemphill, John K., Frederiksen, Norman, *Administrative Performance and Personality* (New York: Bureau of Publications, Teachers College, Columbia University, 1962).

tests an opinionaire was used to get an indication of student reactions. Such a battery of instruments, used as pre- and post-tests, did give some indication of the growth students make toward identified goals.

Just as simulation can be used in a variety of ways in differing settings, the evaluation of its effectiveness can be undertaken in varied ways. It is doubtful, however, that simulation can continually be justified as an instructional device if adequate evaluations are not available.

VI. GUIDELINES FOR USING SIMULATION

There is no set or prescribed way in which simulation must always be used. As reflected in the previous illustrations, in-baskets can be successfully employed in a variety of settings. By the same token, the instructional technique for utilizing simulation can vary.

Some generalizations concerning the use of simulation may be helpful for the instructor who has not used this technique. Those who have used simulation will undoubtedly be able to give additional guidelines.

1. The instructional objectives must be clearly identified. Whether or not the instructor identifies these objectives for the student, or lets the student identify his own is largely a matter of choice. Knowing specific objectives is, of course, important in terms of identifying activities for the student and in terms of evaluating the progress of the student.

2. The instructor must be thoroughly familiar with the background materials and with all items in the in-baskets. This, like the first guideline, may be so obvious that it goes without saying. The more familiar the instructor is with the simulated materials, the more adept he will be in setting a wider variety of possibilities for instructional use.

3. Student interaction must be understood and accepted by the instructor. If an instructor is not willing to let students become involved in discussing, or if he is not secure in seeing students make mistakes, he will probably find simulation very unsatisfactory as an instructional device.

4. Small groups are required to facilitate student interaction. Twelve is a good number to have in a group and fifteen is considered a maximum number by many proponents of discussion methods. Actually, one instructor can serve as a resource person to two small groups operating in one room simultaneously. This is not as desirable, however, as having one instructor working with one group. A climate conducive to student involvement is necessary. Students must expose their thoughts and grow in their ability to give and take.

5. Proper facilities are an important ingredient in the establishment of an adequate setting for group discussion.

6. Total participation in small groups can be achieved if the instructor will take the time to draw out the quiet student, and if necessary, restrict the student who would dominate the discussion.

7. Students must be permitted freedom to explore alternatives. The instructor must guard against correcting all "wrong choices."

The discovery method of learning is, in part, at play during discussions and often if left uncorrected during an early stage of a discussion, the students will, in a very meaningful way, find a better answer as they are encouraged to express their views.

8. The instructor needs to learn how to phrase questions which will stimulate discussion. Those questions which can be answered with a fact or a "yes" or "no" should be avoided so that questions which will lead to the consideration of implications relative to the topic can be considered.

9. Role playing is a helpful technique. When used, it may be found that some pupils will want to step out of their assigned role and say, "I think Mr. Smith should..." In such cases the student should be tactfully directed back to playing the role of Mr. Smith in the first person and not permitted to avoid the necessary decision.

10. Realistic means of follow-up need attention. For example: it is quite easy and natural to provide "answers" for simulated problems with little or no attention given to possible "backlash." Most often, the neophyte will solve a problem quickly and neatly by merely writing a letter or making a call. The instructor should plan immediate and meaningful follow-up activities which force the participant to face the problem and confront the consequences of his decision.

11. Adequate time for considering both background materials and in-basket items is needed. Those who have never used simulation may have a fear that too much time is devoted to discussing materials or working with in-baskets. There may be a feeling that other "important"

topics are being slighted. Those who are willing to invest adequate time for simulation will find the results rewarding.

12. Finally, simulation should not be approached as a panacea. It can provide both realistic and meaningful situations around which class experiences can be engineered.